Learning about Fractions 1

Use these **Activity Notes** with the **Fractions Activity Booklet** and the FunKey **Fractions Cards** and **Fraction Circles** to help a child develop the following key skills and knowledge:

- Reading fractions
- Understanding and using the words numerator and denominator
- Understanding the role of the numerator and denominator
- Understanding the approximate size of any fraction (e.g. more or less than ½)
- Knowing what to add to any fraction to make a whole
- Partitioning fractions (e.g. 3/6 = 1/6 + 2/6)
- Ordering unit fractions
- Making equivalent fractions for a half
- Making equivalent fractions for a quarter
- Making a whole with different denominator fractions

To identify children who need this intervention or to measure added value from the intervention, use the **Fractions Assessment** document.

How to use a FunKey Maths Mentoring Activity Booklet

Our activity booklets set out a series of activities which help children develop key skills in the target maths area. To really consolidate skills and build confidence a child needs to have **repeated opportunities to practise**. Remember that with younger children**, little and often** is a winning formula. 15 minutes at a time is enough to make progress. If you can manage **three sessions of 15 mins a week** you will make a difference.

You should do the activities in order, but the child doesn't have to be perfect at an activity before moving on**. Keep coming back to earlier activities for extra practice**.

In our Activity Booklets, you will see an activity and then three columns, with one, two or three stars at the top of the columns. Every time you do an activity, give the child a tick. **All children like encouragement!**

If the child is just starting out with a new activity and is still finding it tricky, give them a tick in the one-star column. When they are getting good, give them a tick in the two-star column. When they can do it confidently, the tick goes in the three-star column.

You are aiming at a minimum of **three ticks in the three-star column**. Brains forget, so you want the child **succeeding at the activity on three different days** before you can feel confident that they have really got it.

When they have three ticks in the three-star column for all the activities, you can sign and date the last page of the Activity Booklet and celebrate with them!

If you want to get in touch for help/advice try hello@funkeymaths.com or @FunKeyMaths

For this set of activities, remove the cards with the pink background.

Activity 1: Show and Tell *(Reading and interpreting a fraction)*

Take it in turns to pick a card. Read the fraction out loud. Explain what it means using this format: "… part(s) out of … EQUAL parts".

For example, you pick this card.

You say: "One sixth".

You explain: "One part out of six EQUAL parts".

Make sure to emphasize the word EQUAL.

It is helpful at this stage to look at the circle representations of the fractions in the corners of the cards. The representations on each card are different, even for identical fractions.

Activity 2: Slap Bingo *(Identifying fractions from a clue)*

Lay out about 15 cards face up. You give a clue to a card and the child races you to slap that card. You can give a variety of clues, as follows:

<u>To practise the term denominator:</u>
"This fraction has a denominator of …"

<u>To practise the term numerator:</u>
"This fraction has a numerator of …"

<u>To practise reading fractions:</u>
Just say the fraction; one sixth, two eighths, three twelfths etc

<u>To practise interpreting a fraction:</u>
"This fraction is two parts out of eight EQUAL parts"

Once the child has had lots of practice listening to clues, give them a turn at giving the clues.

Activity 3: Match *(Matching cards and fraction sectors)*

Spend time matching the cards to the fraction circles. There is a huge benefit to giving the child lots of time exploring the fraction circles at this early stage. They will observe and discover things for themselves, and this will help secure a much deeper understanding of fractions than if they are simply told things.

Encourage the child to make each fraction shown on the cards out of the fraction circles. Discuss what you are both noticing as they play. Ask some key questions such as:

- Is 4/6 more or less than than 3/6. How much more?
- How many parts are missing from the whole if you have 1/3?
- What does 4/8 look like? What else looks like that?
- Which is bigger? 1/3 or 1/8
- If you have a whole and someone takes away 2/6, what is left?

As much as possible, let the child play and discover themselves what fractions are about.

Activity 4: Make a whole *(Add fractions with same denominator to make one whole)*

Lay all the cards out face up. Put fractions with the same denominators together to make one whole. How many wholes can you make?

Try the activity again. Can you do it more quickly this time?

Activity 5: Happy Families 1 *(Add fractions with same denominator to make one whole)*

Shuffle the cards, then deal out seven cards to each player. The rest of the cards go in a pile face down.

The idea of the game is to make one whole with fractions with the same denominator. Each time a player makes one whole they score a point. The winner is the player with the most points when the game is over.

Players look at their initial hand and lay down any cards which make one whole. Players then take enough cards from the top of the pile to make their hand back up to seven cards.

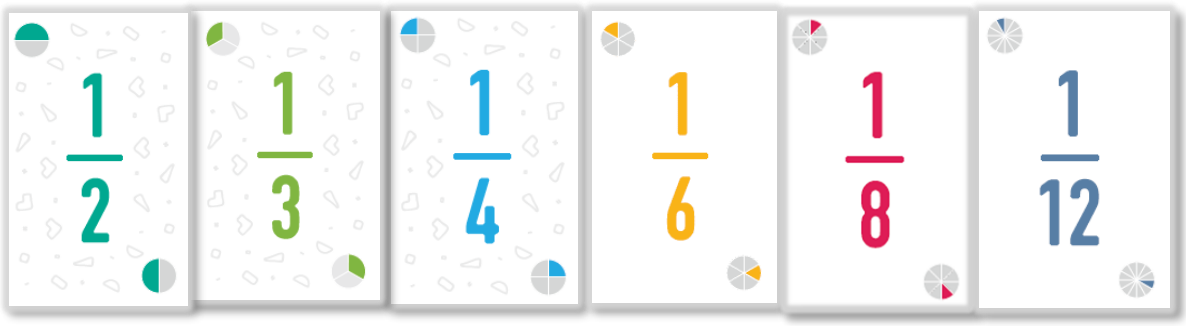
For the rest of the game, players take it in turns to ask each other for cards. Each turn, a player can only ask for one type of card, and they can only ask for a type of card they already hold in their own hand. So, for example, if a player has thirds, quarters and eighths in their hand, they could ask for thirds OR quarters OR eighths.

If the player who has been asked for a card has cards of that type, they must hand over all of their cards of that type. If they do not, the player who asked the question picks up two cards from the pile and play passes to the other player.

Each time a player can make exactly one whole, they should lay it down straight away to avoid the cards being taken by the other player.

Activity 6: Order, order *(Ordering unit fractions)*

Find the following cards.



Without using the fraction circles, try to order these unit fractions from highest to lowest.

Use the fraction circles to check the order. Try ordering from largest to smallest, and smallest to largest.

Try to generalise what you have discovered. There are several ways to phrase the generalisation.

For fractions with the same numerator,
the larger the denominator, the smaller the fraction.

or

For fractions with the same numerator,
the smaller the denominator, the larger the fraction.

Try this activity again using all the fractions with two as a numerator, and then three, and then four.

Activity 7: 1-2-3 Grab! *(Identifying the largest fraction)*

Spread the cards out face down. Someone shouts "1-2-3 Grab!" and all players grab a card. Players read out their fraction and the child/children work out who has the largest fraction. Encourage the child/children to explain how they know which is the largest fraction. They should check their answers using the fraction circles. (The more children use the fraction circles, the more secure their understanding of fractions will become.) The player with the largest fraction takes the card(s) from the other players. Then play again, with someone shouting, "1-2-3 Grab!"

The winner is the one with the most cards when all the cards have been picked.

Activity 8: Make a half *(Finding equivalent fractions for one half)*

Spread all the cards out face up. Try to find single cards which are the equivalent of one half. At first, children often use the circle images on the cards to do this. But gradually encourage them to use their knowledge to work it out *without* using the circle images. Encourage them to explain how they know, for example, that 3/6 is equivalent to one half. Use the word "equivalent" and encourage them to do the same.

When all the single cards equivalent to one half have been found, use the rest of the cards to make one half. For example, you might combine 1/6 and 2/6 to make 3/6.

How many halves can you make?

Activity 9: Make a quarter *(Finding equivalent fractions for one quarter)*

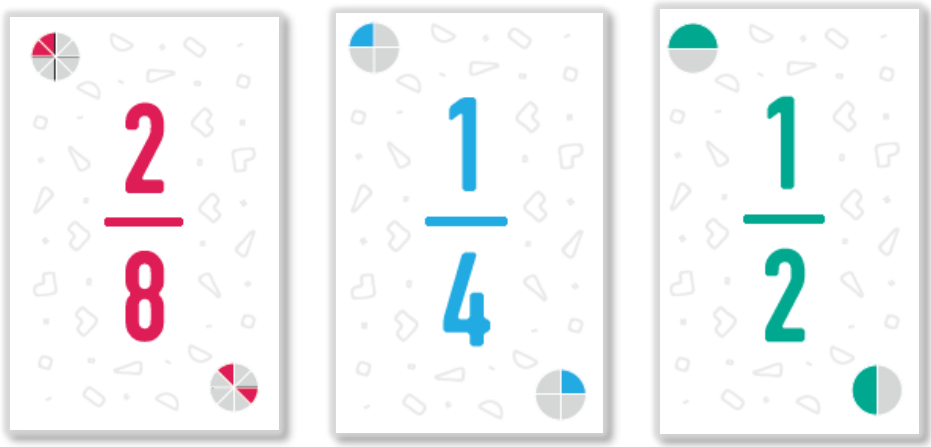
Spread all the cards out face up. Try to find single cards which are the equivalent of one quarter. At first, children often use the circle images on the cards to do this. But gradually encourage them to use their knowledge to work it out *without* using the circle images. Ask them to explain how they know. Use the word "equivalent" and encourage them to do the same.

When all the single cards equivalent to one quarter have been found, use the rest of the cards to make one quarter. For example, you might combine 1/8 and 1/8 to make 2/8.

How many quarters can you make?

Activity 10: Happy Families 2 *(Adding fractions to make a whole, mixed denominators)*

This is exactly like Happy Families 1, except that this time, players can make one whole using fractions with any denominator. A point is scored for each different denominator in the whole. So, if a player made a whole using the cards below, they would score 3 points, one for each denominator.



Congratulations!
You have now completed the ten activities!

We hope the child you have worked with has learnt lots and you have both had fun.

Don't forget to sign and date the completed Activity Booklet.

Look out for the next unit, Fractions 2